THE LEISURE HOUR.

A FAMILY JOURNAL OF INSTRUCTION AND RECREATION.

"BEHOLD IN THESE WHAT LEISURE HOURS DEMAND,—AMUSEMENT AND TRUE KNOWLEDGE HAND IN HAND."—*Cowper.*

ESCAPE OF ADAMS AND JEM GREEN.

THE FRANKLINS;

OR, THE STORY OF A CONVICT.

CHAPTER LII.—RICHARD ADAMS: HIS STORY OF CONVICT LIFE, AND OF HIS ESCAPE.

"You may think, perhaps," said Adams, continuing his narrative, "that our sufferings, or the worst of them at any rate, were over after we landed; but it was not so. I am not one of those, Mr. Franklin, who think that criminals have a right to be treated like pet animals, for whom nothing is too good; but, putting mercy out of the question, justice is due to the very worst of men, and justice never reached us: there was nothing for us in that convict settlement but oppression, cold-blooded cruelty, spite, and revenge. We had been told, or had fancied, that when we reached the place, we should be under the protection of the law. But there was no law that I ever heard of there, but the law of might trampling down weakness, and brute force triumphing over what little there might remain of mind and thought and feeling. Shut out from all humanizing influences, and beyond the reach of redress, the convicts dragged out a miserable existence, and sank into the worst stages of ruffianism. They were the happiest, or rather, the least

wretched, who the soonest lost all that distinguishes a man from a mere animal.*

"It happened, Mr. Franklin, that at the time we landed, the settlement was very much straitened for supplies, and all the convicts had been put on short rations—no very cheering intelligence for us poor starving wretches, who had hoped that, at least in this respect, our condition would be mended. But not only were we almost worse off than before landing—our coming into the colony at that time of scarcity raised such a bitter feeling of spite against us, in those who ought to have been in some sort our protectors, that we fell at once into the lowest depths of degradation, and tasted the full bitterness of being under irresponsible power.

"I have not the heart, Mr. Franklin, to tell you what my own personal sufferings, both in mind and body, were, nor what I have seen, or known others to suffer.

"Hanging was common, for what many would count trivial offences. I saw a poor wretch hung for stealing some of the store biscuits. As to what may be called minor punishments, you may suppose that, among other things, the lash was kept in constant exercise in the camp—for the miserable huts in which we were herded together were called the encampment; and it was no uncommon thing for a dozen men, one after another, to be tied up to the triangle, and receive six or eight hundred lashes a piece for the smallest offences: even a word or a look was often enough.

"This lasted—I mean my knowledge of this fearful tyranny lasted—some weeks; and there was no eye to pity the poor victims, nor any one to step forward to help us.

"One night, while I was fast asleep in the hut (for sleep does come, Mr. Franklin, to the most wretched), I felt a hand laid on me, and woke to find Jem Green by my side. I should tell you, sir, that a kindly sort of feeling had grown up between us, in consequence of the gipsy's tenderness to the lad of whom I have spoken; and as we worked together in the same gang, we had opportunities of sometimes passing a word or two with each other.

"'Hush!' said he; 'I don't want to be overheard; speak low;' and he set me the example.

"'What is it?' said I, attending to his caution.

"'Are you a man?' he asked, in the same guarded manner.

"'I once thought I was,' said I; 'but there is not much of the man left in me.'

"'More than you think for, if you'll only stir it up,' he answered. And then he whispered a plan he had formed for raising a mutiny in the camp, and among the convicts generally, killing our tyrants, and the soldiers who were employed to keep guard over us, or getting the latter to join us, and setting ourselves at liberty. It does not matter now, what arguments the man used for bringing me over to his scheme; all I shall say is, that it did not seem quite a hopeless one. It was true enough that the convicts in the colony at that time outnumbered all the rest, including free-settlers, some of whom might be brought, perhaps, to take part with us, or, if not, their farms lay far enough apart to enable us to put down all opposition in detail, supposing we should strike the first blow successfully; and that our condition was so hopeless in itself, that at the very worst, death seemed rather to be chosen than life.

"Nor does it matter how many days or weeks we brooded over our plans, and tried to get others to join us; for it all came to nothing: the misery was so crushing, that no spirit for resistance was left.

"Then came Green to me again, and urged me to escape with him into the woods. 'We have gone too far,' he said, 'to be safe for an hour. Those whom we have trusted know too much for our safety. The craven dogs will curry favour by betraying us.'

"'So let them, then,' I said; 'it is better to die than to live the life we now live.'

"'But it is not better to die than to escape from such a life. Come, don't give up. If you don't go with me, I go alone.'

"And so he persuaded me. I knew very well that from time to time men had escaped into the bush; and I knew what had become of the most of them. Some had been tracked and followed and shot down; others had wandered in those dreary wilds till they were starved; and others had fallen into the hands of the natives, and been murdered. I knew, therefore, what I had to expect; but, as I have said, I was reckless of life.

"We chose a dark night for our escape; and we managed to get out of the camp without being discovered. We pushed directly to the interior, avoiding the grounds of the free colonists who had settled round the port; and by morning we were, as we believed, safe from pursuit; for no one, nor any score of men, would have cared to venture so far after a couple of runaways, while there were more convicts already in the colony than they knew what to do with.

"We had escaped, then, but only to perish, as others had perished: so at least I thought; for we had neither shelter nor food. But I had not calculated on the skill and contrivance of my companion. In the half-savage gipsy life he had led from childhood, he had learned how to subsist where others must have starved; and it is to Jem Green that I am indebted for my present existence. Life, to be sure, Mr. Franklin, has not been such a rich boon to me from that day to this, as to cause me to set a very high value upon it; but the Bible tells us truly, that 'skin for skin; all that a man hath will he give for his life;' and you may partly judge why I was anxious to keep the man's secret, and why I asked you to keep it, when we met—you remember where, sir. It was the smallest return I could make: you see that, Mr. Franklin? But perhaps you think that duty should go before gratitude?

"Did I think so, Adams, when, for your sake, I concealed the fact of Green's being alive?" asked the young midshipman, compelling himself to speak.

"True, sir; and I ought not to put it in that way either. There was in my case, and in yours too, Mr. Franklin—if I may couple our two selves together—a debt due to gratitude to be discharged. And so mercy triumphed over justice and law. To go on with my story, however; I will acknowledge to you now, that life was not without its value to me. The moment I breathed the air of dear freedom in that wild waste where perhaps no feet but those of savages had ever before trod, I began to feel its value, Mr. Franklin: I had something to live for; at least, I thought so then. I don't think I have ever mentioned it before to you; but I'll tell you now, that here, in England (somewhere down in the country), I had left a wife and child. It may seem strange; but, convict though I was, I did care for them; and at that time I had not given up the hope of seeing them again."

Once more a cry from Willy Franklin laboured for utterance; but strong resolution stifled it. That the

* The reader will bear in mind that this was spoken of the earliest stages in the history of the convict settlement of New South Wales; and there is abundant evidence in the authentic accounts of that colony, of misgovernment and despotic power cruelly abused, which fully corroborates the above description.

struggle was severe, and the pain great, was shown by his quivering lips and bloodless cheeks.

"You do not feel well, sir," said the observant sailor; "the heat of the room——"

"I am well; oh yes, quite well. Your story interests me; pray go on, and don't mind my looks. I shall be all right soon. And Adams, you know you are to tell me all—all."

"Well, sir, to go on with my story, then; I soon found that Green was at no loss for expedients. Fortunately the weather was dry and the nights warm. In truth, the climate of New South Wales is a very fine one, as will be found out some day. So we got no harm by sleeping in the open air, or under the shelter of bushes and trees. Strange trees they are there, some of them; but this is nothing to the purpose.

"Our greatest danger was from starvation, we being so unacquainted with the productions of the country, and not knowing where to look for any kind of food. As to wild beasts, there were none more formidable than dogs, which would have picked our bones clean enough if we had been dead, but were more afraid of us living, than we of them. There were snakes, certainly, of a poisonous sort; but they mostly kept out of our way.

"Not always, however; and the first good meal we had was a long snake that we killed, and cooked over a fire made by rubbing two dry sticks together; and our next meal, and many meals in succession, were made of poor bits of herbage or roots, with some great maggoty-like grubs we picked out of the bark of trees.

"As I have already told you, if it had not been for my gipsy companion, I must soon have perished; but he managed to keep life in me as well as in himself, till, after wandering in the bush for more than a week, we fell in with a party of the wild natives.

"And here again, Green's half-savage education stood us both in good stead. There must have been some natural free-masonry, I fancied, by which he managed to conciliate the naked wretches when they first rushed upon us, brandishing their murderous weapons. At any rate, he did conciliate them; and in a short time we were received open-armed into their society. You may smile, Mr. Franklin, but it is true enough, that I was sorely tempted to remain among these barbarians; and if it had not been for thoughts of home, I might have done so. Green urged me to it, and it was only when he found that I was not to be persuaded, that he gave up the idea himself. As it was, we kept company with them several weeks.

"I am making my story too long," continued Adams; "so I will only say how we planned our escape. In all the time of our wanderings with the savages, we had never been far away from the settlement; and one dark night, guided by a native, we made a push for the shore. There, as we had hoped, we found a boat; and by daylight we were out at sea and out of sight of land, with an old sail, a pair of oars, and food enough and water to last us a week, and a provision of fishing lines and hooks made from the entrails and bones of animals we had killed.

"A more wild and desperate adventure was, perhaps, never dreamt of; but then, we were wild and desperate. Moreover, we were encouraged by an example which had been set some time before by a party of convicts, who went off in an open boat, and succeeded in reaching the island of Timor. This affair had been hushed up, but it made a stir at the time; and we had heard of it, and fancied that what one could do, others might."

CHAPTER LIII.—RICHARD ADAMS TELLS FURTHER OF HIS ESCAPE FROM THE CONVICT SETTLEMENT—HIS AFTER WANDERINGS—THE DISCOVERY.

"What more I have to say will soon be told, Mr. Franklin," continued Adams, who for some time had been the sole speaker; and who, as he told his tale, sat watching with curious interest the concentrated and painful attention yielded by his young auditor. "I might make a long story of our adventures in the boat," he went on; "but I shall only just say, that after tossing about, and steering, as near as we could judge, towards the South-sea islands, till all our provisions were gone, and having no luck in fishing—which was not to be expected, in the deep seas, death stared us in the face when we looked at each other—a sail hove in sight, and presently we were seen and picked up.

"The vessel was an American whaler, outward bound; and when we were fairly on board, and had been brought to a little, the skipper sent for us into his cabin.

"'Now, my men,' said he, 'I don't care who you are, or where you come from. I may give a pretty good guess, perhaps; but I won't ask you, and then no lies need be told. We'll just say, if you like, that you have dropped from the clouds. But I can tell you one thing, which is, that if you did come in that way, you were sent to work; and one word is as good as a thousand. Here you are, and work you must. You may suppose, Mr. Franklin, that we were not sorry to get off on those terms; and this was the beginning of my being a sailor.

"Months afterwards we got safely to Newport (the American Newport), our voyage being ended; and I was free to go where I liked. And here I parted with Green—not very sorry to do it, Mr. Franklin, for he had turned out to be mutinous, idle, and drunken. Yet I had a liking for the poor fellow, because of his adventurous spirit, and the troubles we had passed through together. We parted, however; and I never saw him again till I saw him on board 'The Alerte,' fighting under the French flag. And now, Mr. Franklin, I have explained to you, from beginning to ending, all the history of my connection with Jem Green, and my knowledge of him. What little more I have to tell is my own separate story. Shall I go on, sir?"

For some time the young midshipman's elbows had rested on the table, and his head had rested on his hands, the outspread palms of which covered his face. And now, without altering his position, or lifting his head, he replied, in a voice startlingly altered from the hearty and joyous tones which generally issued from his lips—

"Go on, Adams; you have more to tell me yet; tell me all."

"I am giving you pain, I see, sir," said the sailor, who was scarcely less affected than his companion appeared to be, though he made more successful efforts to hide his emotion; "and if you'll only pass the word, sir, not another sentence shall pass my lips. Let it go, Mr. Franklin; let it be buried for ever. I wouldn't wonder, sir, if you do hold yourself degraded already by your familiarity with me, and wish we had never met. Only say so, and I'll never trouble you again."

"The word that separates us shall never be spoken by me, Adams," sobbed the young man; and tears gushed out beneath his hands, which still covered his face:—"go on, and—tell me all."

"Where was I, then?" said Adams who for a moment seemed bewildered. "I remember: I had landed in America, and was free; yes, that was it. Freedom is a blessed thing, Mr. Franklin; but free, in one sense, I

was not. Free! how could I think myself free, when I wasn't free to return to those I loved best?"

"Did you not write? If you could not return to them, could they not have gone to you?" Almost fiercely Willy said this; but his face was still covered.

"I was an impoverished man," replied Adams, quietly; "and I was a proud man. I had not been tamed down by the miseries I had undergone; and I——but it is useless to go back. It is one consolation which I have lately found, that, had I written, it would have been too late. Yet let me say only this for myself: my love never diminished by distance and absence; and I had that faith in—in my poor wife—to believe that she would ever be true to me. So, dreaming of a time to come—a time that never came—when I should, no longer dishonoured and despised by all the world, clasp her once more in my arms, and make up to her all that she had suffered for me, time passed on, and——and I was silent. Do you reproach me, sir, for this?"

"No, no: why should I reproach you? Go on; your story is not yet told."

"I had taken a liking to the sea, Mr. Franklin: this was one thing; and another was, that I could not rest long in one place. Though I was no Cain, the brand of Cain seemed on me, and I became a wanderer; while the success for which I strove perpetually eluded my grasp. I saw others making their fortunes, Mr. Franklin—others who had neither the strong motives nor the determination that I had; but I never made mine. After years of toil and danger, I was nothing more than at the beginning. Once I had saved what to me was a large sum—more than a hundred pounds—and had it always with me, till, one voyage, I was shipwrecked, and all I had in the world went down with the vessel.

"At last, Mr. Franklin, I could bear it no longer: every day that kept me from my poor wife and boy seemed a year. I could not wait to write; and indeed, what would my writing then have done? I determined to risk all. I had no plan beyond that of seeing those from whom I had been parted so many years; all beside that was a blank to me, and I had no thought nor care to know what might be in future. Well, sir, 'The Dorothy' was in New York harbour, and a hand was wanted. I applied for it—and you know the rest, Mr. Franklin."

"Not all—not all: you have more to tell yet, Adams," cried Willy, as he uncovered his face: he was calm now, though his countenance was pale; and he looked steadily at the sailor.

"Let me fill up the rest of your story," he said. "You sailed in 'The Dorothy;' you were pressed before reaching port, and were compelled to serve on board 'The Glorious;' you heard there, or fancied you heard, that you were too late; that your wife was dead, and your son—well, you fancied that your son, wherever he might be, would shrink from you, if he knew you a returned convict."

"I may have had some such——"

"No: but let me finish," said the young man, earnestly and almost impatiently: "you fancied this; but still, you did not love him the less——"

"Love! love!" burst from the convict's lips, in an agony of feeling which broke down the strong constraint he had hitherto laid upon himself: "who besides was there for me to love? I would have died for him; I would die for him now."

"One moment more: you did love him; and there was one into whose society you were thrown, whom you thought to be such a one as your son, under happier circumstances, might have been; from that moment you took an interest in him, watched over him as only a father can watch—saved him, again and again, when in danger. But to say no more about this, when you parted from him, you found your way to the place which had once been your home. You expected, perhaps, to find your wife's grave, and to hear of the boy; and you have forgotten to say, there was a yet living mother whom you longed to see——No, hear me out"—for the convict essayed to speak—"you returned, and knew then that the wife whom you thought dead, had followed you to share in your fate, and had never since been heard of; that the son whom you loved better than life itself, was too prosperous and too happy to care——"

"No, no, no, no."

"Well, let this pass: you seek that son now; you wish to try—to learn from his own lips, when he shall have heard your story, whether your love is returned, whether he has courage enough to acknowledge you, whether, if need be, he will——"

"Say no more, Mr. Franklin," said the man, with dignity; "I may have thought all this, sir, as you say. I won't deny that some such thoughts may have passed through my mind; but I have not clearly seen till now the great gulf there is between him who was my son, and me, and——No, I give it up, sir."

"FATHER, FATHER!" The cry broke out at last, and father and son were locked in each other's arms.

CHAPTER LIV. — EXTRACTS FROM THREE OLD LETTERS FOUND SOME TIME SINCE IN THE ESCRITOIRE OF A DECEASED GENTLEMAN.

(*First extract.*) "* * * * You must decide for yourself, William Franklin. If you have, if you can have, any doubt as to what your course ought to be, I have none at all about mine. If you choose to follow the fortunes of the man who calls himself your father—a pretty sort of father!—and go over the world in search of a mother who has been long since dead, or she would have turned up before this, you can do so; I don't mean to hinder it. But, in that case, I wipe my hands of all future concern about you. I should never have thought, though, of having to deal with such an ungrateful—but I won't use strong language.

"You say your father is innocent: innocent! But I am not going to argue with you.

"You write about your love and gratitude: show your love and gratitude, Willy, by returning to your duty. Haven't I been a father to you all your life? My poor boy! you don't know what you are doing when you throw away—but I shan't persuade you. Don't think I am in a passion with you, Willy; but I tell you, sir, that if you don't give up this disgraceful connection at once, I have done with you for ever. There: I have written it now; and I mean it.

"But I don't doubt you'll think better of it. I'll give you two days to decide in; and if I don't hear from you then, I shall know what to think.

"There will be some money coming to you when you are of age, from the sale of 'The Lees,' sixteen years ago: this is in the lawyer Peake's hands, and he'll reckon with you for it.

"But I can't believe it of you, Willy. Do write and let me know that I have not lost one who has been almost as dear to me as my own son.

"So, no more at present, sir, from your obedient servant,

"MILES OAKLEY."

(*Second extract: written three days later, in a lady's hand.*) "* * * * * You will acknowledge the importance, sir, of our coming to a final understanding.

I need not tell you, I think, that I never approved of your courting my daughter, but was over persuaded to permit your addresses. Of course, your good sense will tell you that now it is all over. I could not, under any circumstances, have permitted it to go on, if I had not been assured that your parents were dead, and all their past disgrace buried in oblivion; and now, especially, since you have caused such just offence to your best friend and patron, and been discarded by him for ever, and so have sunk yourself down to the level from which his goodness raised you, I consider myself as doubly bound to save my poor child from the misery of a *mésalliance*. You are to consider, therefore, sir, that all which has passed on that subject is to be forgotten, and that both Mr. Murray's and my consent to the foolish engagement is *entirely retracted*. "ISABEL MURRAY."

(*Third extract: written two days still later, and in a very hurried hand; the letter being much blotted in places, as though tears had dropped on the writing before it was quite dry.*) "* * * * Do not think too hardly of my dear husband, Willy. He loves you dearly, I know, though he is so angry with you; and he is suffering so much from the gout, which came on the very day your first letter came to 'The Oaks,' and has sent him almost out of his mind. I have tried to soften him, Willy; and I took your part against him, indeed I did, and told him—[a blot here, rendering several words illegible] but you know how hard it is to turn him. And yet, so kind and good as he is! * * * *

"Have patience, Willy, and all will come right at last. It is hard to bear now; but you feel you are doing right, and I can't think you are doing wrong; and so I think you will get through it all, and you will be our Willy again, as much as you were before. And, dear Willy, when you are wandering far away, you may believe that there is one friend at 'The Oaks' who has never altered towards you, and who will do all she can for you still.

"I put in a bank note, Willy. It is only fifty pounds. I wish it were more, for your sake. But it may be of use to you.

"And I'll tell you a secret, Willy. It was only yesterday that my dear Miles took it out of his pocket-book and gave it to me; and when I asked him what I was to do with it, he told me, in his way, you know, not to bother him with questions—that I might buy sugar-plums with the money if I liked. But, Willy, he knew very well what I should do with it. So I don't think he is so angry with you as he seems.

"You must write, Willy, and let me know how you succeed in your search. Not that I expect you will succeed, for your mother you will never see again, I am almost sure; for why should she have kept silent all these years if she were in life? It will be better for you not to send to me; but if you write to Martha White, she will let me see your letters.

"I can't write any more, dear Willy, only to tell you again to keep up heart, and to believe that I am your faithful friend, "LUCY OAKLEY."

LIFE AT THE UNIVERSITY.

THE time that a man spends at college, is generally admitted to be the happiest period of his life—at least, it is a most important period. He is in most cases a young man, in the full bloom of youth. He knows as yet, generally speaking, but little of this world's cares. The troubles and anxieties of his future life, though they may be foreshadowed by various little circumstances, have not yet imprinted upon his youthful brow that thoughtful expression so plainly to be seen in after years. Added to this, the young man at college is thrown amongst numbers of his own age, out of whom he is at liberty to choose his own friends and companions; and hence it is that the young undergraduate is assuredly surrounded by those as friends, whose tastes and feelings are most congenial with his own.

It is true that the time spent at the University is a dangerous time, and that, like all other things, it has a dark side as well as a bright one. A young man generally goes up to college straight from school; and unless good principles have been early implanted within him, by a good and careful home training, he is very apt to be led astray into what is wrong. The sudden feeling of independence (for University men, in spite of college discipline, are pretty much their own masters) is sure to have a baneful effect upon the life and conduct of the undergraduate, unless there be within him that heavenly wisdom, the gift of God, and that power to withstand temptation which the Scriptures call grace. Though, however, it is a dangerous season, still college life, if rightly used, may be a most profitable time. By attending to the rules and studies of the place, by making those studies his main object while he is at college, and by a careful selection of companions and friends the young man may receive that good training which is so well calculated to invigorate the mind, to give its possessor a polished and manly bearing—in short, to fit him to take his place in society.

As many of the readers of "The Leisure Hour" are probably not acquainted with that course of training by which our clergymen, lawyers, and many of the other professions are fitted and prepared for their several posts, it may be interesting if we just give a general outline of the details of college life.

The age at which a young man generally goes up to college is somewhere between seventeen and nineteen. The first thing he has to do is to present himself before the head and tutors of the college, for an entrance examination. If this is passed successfully, and to the satisfaction of those dreadful "dons," his name is entered in the college books; he pays his entrance fees; and then, sundry oaths are administered to him in Latin, one of which is that he will never help himself to the contents of the buttery, so as to avoid payment, but that he will always order what he wants in the usual manner. This done, he is conducted into the presence of the vice-chancellor, who repeats to him some sentences in Latin, and hands him a Latin document, as the certificate of his "matriculation." The young man is thenceforward a member of the University, and not only entitled to wear his cap and gown, but obliged to wear it when in residence, on pain of being pulled up by the proctors and fined.

After matriculation, it is the usual custom not to begin to reside at once, but to return and read until the second or third term.

This short interval being ended, and his books and other etceteras packed up, he proceeds to the city of learning to commence his academical course. Arrived at the college gate, he meets the porter, who calls the servant appointed to attend him, gives directions about the gentleman's luggage, and shows him his rooms. Entering his rooms, he finds them nicely swept, very clean, and a large bright fire, making all around look exceedingly cheerful. He dismisses those who carried up his luggage with a small present, and then proceeds to examine his premises. The furniture of college rooms is pretty much the same in all. A round table stands in the middle of the rooms, which takes

apart to admit sundry leaves, with a view to any large breakfast party of his friends. Then there are one or two side-tables, a cheffonier, (which is also a book-case,) for the purpose of containing his tea and sugar, biscuits, wine, and other stores. There are also chairs of different varieties of shape, well calculated to promote ease and comfort, one of which generally has a reading-stand fixed to the arm. The furniture of the bed-room, which leads out of the sitting-room, is generally meagre, only consisting of such things as are necessary.

The first evening our freshman generally passes alone, unless he have a friend or intimate acquaintance previously known to him.

Next morning he takes his place in chapel, sitting on the freshmen's benches, where his countenance is thoroughly scanned by his fellow collegians, who there and then, perhaps, make up their minds as to what sort of a fellow he is likely to be; and accordingly they determine either to call upon him at once, or else to wait awhile first, or perhaps not to seek his acquaintance at all.

Chapel and breakfast over, he is summoned up before the warden (the head of the college), to hear the main rules and regulations of the place, and the penalties which an infringement of those rules will surely bring down upon his devoted head.

During the first few days of his new life he is generally called upon by those of his fellow students who have marked his countenance and bearing with satisfaction to themselves. If any of these older hands are so disposed, they will kindly put the young freshman in the way of a thing or two, and tell him somewhat concerning college practices and college etiquette (which, by the way, it is very necessary for him to observe, especially at first). These calls ought to be formally returned about the next day but one after; and then next term, if the young man desires to keep up the acquaintance, it is his place to call first on his friend. In this way acquaintanceships and friendships are formed at the University.

About the third day of his first term, a considerable draw is made upon his pocket, in a manner quite as unexpected as it is calculated to raise his ire. The single knock at his door foretels the entrance of a servant. It is his own scout. "Please, sir, there is always a fee of half-a-crown for the first bed made." The half crown is unwillingly given, and the scout disappears. Another single knock. It is the porter. "Please, sir, the porter always expects a fee of two shillings for the first letter delivered; and you had a letter this morning, sir." The money is paid, and the porter goes his way. A third single knock. It is the boots. "Please, sir, every gentleman is expected to pay half-a-crown for the first pair of boots blacked." It is paid with a sigh, and thought to be a needless extortion. Then follows an interval of peace; after which a fourth single knock announces the arrival of another unwelcome visitor. It is one whom he has seen in the dining-hall waiting at the high table. He comes with a book under his arm; and his object is to extract the sum of twelve shillings and sixpence, to be expended in plate for the hall. This last sum is paid in great wrath; and then the persecution ceases.

While upon the subject of college servants, we may mention one or two of their practices and dodges. They are in general strictly honest; but they have a hawk's eye after whatever they can get by what they consider *lawful* means. Many of them are shopkeepers in the suburbs of the city. Each scout has about nine men to wait upon. His business is to light their fires, make their beds, keep their rooms clean, lay their breakfast and tea, and wait upon them in hall. For this service each man pays a guinea a term. There are, however, a hundred ways by which these scouts, as they are called at Oxford (gyps at Cambridge), may add to their income. For instance, after the first few days of the first term, the scout addresses his young master as follows:—"Now, sir, you'll want a few necessaries, such as crockery, kettle, coal-box, candlesticks, bed-room ware. At present, sir, you are using *my* things. Now, I can either supply you with these things, or you can get them in the town." To save trouble, the scout is ordered to supply them. He then makes out a bill, supplying things that he has already sold to our freshman's predecessors times without number, and at about three times their value.

The writer of this paper was one day reading for his last examination, when the scout entered.

"Please, sir, you wants a new kettle. Your old one is quite wore out."

"Very well, Richard; I'll see about it."

"You'd better get a good copper one, sir; hold about three quarts. It will cost fifteen shillings, and that will last you all your time." (Yes, thought I; one word for me, and two for yourself. I have only a short time to stay, and then you'll sell my kettle to the next man, and get a good price for it.)

"Very well, Richard."

"Shall I get it for you, sir?"

"No, thank you."

In the afternoon I went to a shop, and bought a small iron kettle for two and sixpence, quite good enough to serve my purpose, and last my time. Later in the day the scout came in.

"Well, Richard, have you seen my kettle?"

"Yes, sir; I've seen *that thing!* You ought to have got a copper one. It would only have cost fifteen shillings, and lasted your time out."

It is needless to add that the iron one answered every purpose, and lasted my time out abundantly.

During the first term of residence, the young freshman is asked to breakfast by some of his seniors—those who have already called upon him. A college breakfast is more like a dinner than a breakfast. About fifteen or twenty sit round the table. The breakfast consists of five or six dishes, such as fish, chickens, a shoulder of lamb, fricaseed rabbit, sausages, and the like, besides eggs, toast, marmalade, tea and coffee, and sometimes a beer or cider cup. Our freshman is not expected to give a return breakfast until the following term. These breakfast parties are among the most social and pleasant scenes of college life.

The training of a University course, and the effects of that training, rest very much with the student himself. He may spend his time so as to tend greatly to his advantage in after life, or he may waste it in idleness.

The college lectures are very good, and useful if attended diligently. During the first term of residence, a man has to attend about twelve of these in the week. If he is careful in preparing beforehand, the subjects to be lectured upon, and if the tutor be a clever man, and up to his work, the lectures may be very beneficial. They relate to various subjects, and are calculated to fit the student for his public examinations. Besides these college lectures, there are other public ones, delivered by professors, on a variety of subjects, such as Ecclesiastical History, Modern History, Hebrew, Arabic, the Composition of Sermons, Geology, Chemistry, and other sciences. Then there are four public examinations at Oxford, through which a man must pass before he can take his degree; and these examinations require much preparatory reading.

The chief part, however, of college training is the mixing with other men. Association with others, many of them learned and good, has a mutually good effect, and a secret influence upon the minds of the young men. Many of them are well informed already, and capable of imparting much useful information to their fellow students. Thus, while reading together, while rowing on the river, or while walking in company into the neighbouring country, the intercourse between the minds of those of a like age is likely to leave a lasting impression for good.

The writer of this paper looks back with many pleasant remembrances upon this kind of association with other minds. He often recals many a pleasant evening spent with his chosen companions at Oxford, and especially does he delight to think of his walks with various friends to Headington, to Yarnton, and other places, or of his rambles in their company along the banks of the Cherwell or the Isis; and even now, though engaged in occupations of a far higher and more important nature, as a clergyman, he can look back upon his college days as some of the happiest ever spent.

THE REGULAR SWISS ROUND.

IV.—HOFENTHAL TO THE GRIMSEL.

NEXT morning we got up before sunrise, which furnished us with some opportunities for a little self-deception. P. and I had lamed ourselves coming down the Righi. In descending a steep path for two or three hours, the foot is constantly pushed forward in the shoe, and the upper part, where the skin is tender, is very likely to be flayed. It was so with us; and therefore, the next morning we were not sorry to limp along very slowly, under pretence of stopping to admire the sunrise. Let me remark here, in reference to shoes, that it is a good thing to have the upper leather soft; let the soles be hard and thick, but the rest of the shoe should be flexible and soft. Of course, walking boots used on such excursions as these must fit very easily, for the foot often swells so much at first, that it is difficult to put a close-fitting boot on, and intolerable pain to wear it when you have done so. Sometimes, moreover—as when you expect to walk long in snow—it is necessary to wrap the toes in fur, to keep them from being frost-bitten; and then, what will you do if you have been so silly as to try to walk in a fashionable pair of boots? If you are determined to be very natty about your feet, why, stay at home, and exhibit them to an admiring public—say at Margate; don't attempt any walking, least of all, in Switzerland.

We soon worked off our lameness, P. and I, however, comparing notes every now and then. J. capered off like Pan; but I strongly suspect he suffered great torture, though he made a good pretence of being intact. We enjoyed the consolations of sympathy.

The summit of the Furca Pass was to be our first resting place. This is some eight thousand and odd feet high; but we had already gained a considerable height. There is a little inn at the top of the Pass, and when we were there a patch of snow lay by it—the last part of the ascent being a sharp pull. We saw the inn at last. Our route hitherto was not very striking, the finest scenery being on the other side of the Furca. This, no doubt, made our walk appear longer. At last, however, we got to the little inn, and had a grand view of the Finster-Aar-Horn, from a spot a short distance from it. Though a fine day in August, and about noon, it was bitterly cold; indeed, the snow lay a few yards off. After luncheon we sat a while outside the inn, in the most sheltered spot we could find, and enjoyed the grand view before us, looking onward in the direction of our route. Here I first noticed the singularly constructed nose of the mountain dogs. It is almost split in the middle. I can resemble it to nothing better than the muzzle of a double gun, with a deep depression between the barrels. One of these brutes, sitting before me and begging steadily for scraps, looked exactly as if he were taking aim.

After lunch we started under salute of howls from the ogre, our way lying towards the Glacier du Rhone. We passed immense numbers of the red mountain rhododendrons—the Alpine roses, as they are sometimes called. The bloom of flowers, however, is shortlived in the mountains, and these had blossomed for the year. Nothing can be more beautiful than they are when out; covering, as they do, large tracts of country, you seem to walk in a world of roses, except where the bare rock rises up from among them. Flowers are a great feature of Swiss scenery; some of the pastures we passed looked more like gardens than fields, so bright were they with blossom. But the Swiss summer is very shortlived—magnificent while it lasts, but soon gone. We looked in vain for a perfect flower among all the miles of rhododendrons through which we passed, but could not find one, though a week or so before this they had seemed to set the hills on fire.

Our path descended towards the Glacier du Rhone, which soon came in sight. It is the first you see near, by this route; you can throw pebbles on its surface, so closely does it skirt the regular route for a considerable distance. This glacier is a famous and large one. It looks like a river, wider than the Thames at Greenwich, tossed into pointed waves poured over a ridge of granite, spreading out below like a fan frozen in the act, and then powdered with soiled snow. This destroys much of the effect; you look in vain for much of the deep bright blue of the ice; we saw plenty of it afterwards elsewhere: but here the ice looked not only white, but a very dingy white—its border especially being covered with stones and dirt, like the edge of the Serpentine when little boys pitch things upon it before it will bear. No doubt it was immensely thick, and here and there we could see blue in the cracks; but I desire to convey honestly the impression made on me by this famous glacier. It was fringed with dirty snow. As the glacier comes down from the heights in which it is formed, it grinds the rocks, which drop stones and dirt upon it; these it carries upon its surface for a long time—often to the last, when it melts into a stream. While we are here, let me say, once for all, a word about these glaciers.

They come down from the immense accumulation of old snow among the higher mountains, oozing out, as it were, and carried slowly downwards by their own weight, till they reach the valleys, where they are melted by the heat of the sun, and issue in streams. It has been calculated that there are about six hundred glaciers in the Swiss Alps, and that the extent of surface occupied by them is about one thousand square miles. They are of all sizes—in some places six hundred and seven hundred feet thick; but their average depth has been taken to be between sixty and one hundred feet. They consist of ductile ice, which, although it opens out into fissures, holds together, and bends over rough grounds and even precipices, in its descent, never losing its connection with its parent store among the hills. Sometimes there are several of these slow ice eruptions, in different directions, from the same great central reservoir among the mountains. That around the Finster-Aar-Horn sends out no less than thirteen branches; its extent has been

END OF THE RHONE GLACIER.

estimated at one hundred and twenty-five square miles, and it is supposed to be the largest in Europe.

As the glacier advances, it destroys all vegetation, scraping the rocks bare, and turning over large firs as if they were mere stubble. Indeed it is not unlike a huge ploughshare, and penetrates deep down into many valleys far below the pasture and trees. Its edge is generally covered with the *débris* of rocks which it has crushed and grazed in squeezing itself between peaks and down narrow gorges. Though wasted at its lower end, it is continually supplied from above; thus, sometimes the accumulation of stones at its foot is immense. I have seen it more than a hundred feet high. These loads of stones and rubbish which the glacier carries, are called moraines, and prove the previous existence of glaciers in places from which they have long disappeared. Sometimes great boulders are found of a quite different kind of stone from that on which they rest. They have been carried there by glaciers, which at last melted under them and left them where they lie. The surface of rocks, too, is sometimes scraped and grooved. This is caused by the motion of an ancient glacier which scratched and rubbed them in its descent.

The great danger in traversing a glacier arises from its cracks or crevasses. As the huge mass pushes itself over rough ground, or even the edge of a rock, fissures open on its surface, to allow it to bend: sometimes the whole glacier is thus broken up into great irregular blocks and wedges, at others it is crossed by cracks. These are very troublesome to the traveller; for though they do not extend across the whole width of the glacier, they often compel him to follow them to their narrow end, where alone they can be passed. A number of these makes the ascent of some glaciers very tedious work.

The Glacier du Rhone, which we are skirting, is easily traversed at its lower, broad extremity, having reached comparatively level ground, and being little crevassed. As I have said, it is of a dirty white, like soiled snow, but of immense extent.

The Rhone issues from it in a milk-white stream. How unlike the deep green river which bursts away out of the Lake of Geneva, and flows so swiftly through sunny France! I once descended it to Avignon, where the heat in October was Italian; now I saw it leap from its parent ice. Surely we are changed as we travel onwards. Before leaving glaciers for the present, I must transcribe the beautiful illustration they suggested to Professor James D. Forbes:—

"Poets and philosophers have delighted to compare the course of human life to that of a river; perhaps a still apter simile might be found in the history of a glacier. Heaven-descended in its origin, it yet takes its mould and conformation from the hidden womb of the mountains which brought it forth. At first, soft and ductile, it acquires a character and firmness of its own, as an inevitable destiny urges it on its onward career. Jostled, and constrained by the crosses and inequalities of its prescribed path, hedged in by impassable barriers, which fix limits to its movements, it yields groaning to its fate, and still travels forward seamed with the scars of many a conflict with opposing obstacles. All this while, although wasting, it is renewed by an unseen power: it evaporates but is not consumed. On its surface it bears the spoils which, during the progress of existence, it has made its own—often weighty burdens, devoid of beauty or value, at times precious masses, sparkling with gems or with ore. Having at length attained its greatest width and extension, commanding admiration by its beauty and power, waste predominates over supply, the vital springs begin to fail, it stoops into an attitude of decrepitude. It drops the burdens, one by one, which it had borne so proudly aloft: its dissolution is inevitable. But as it is resolved into its elements, it

takes all at once a new, and livelier, and disembarrassed form; from the wreck of its members it arises another, yet the same—a noble, full-bodied, arrowy stream, which leaps rejoicing over the obstacles which before had stayed its progress, and hastens through fertile valleys, towards a freer existence, and a final union in the ocean, with the boundless and the infinite."

We crossed the infant Rhone by a pine bridge, and reached a little inn at the bottom of the valley. Into this the ogre immediately plunged, pushing greedily forward as we approached it, and taking off his knapsack as he entered the door. There he vanished without any apology or explanation, and there we left him; for we did not sit down ourselves, but, taking a draught of milk, pushed on to the Grimsel. It was a stiff climb to the top of the Pass, the path lying among great stones and fragments of rock, which sometimes made the ascent like a steep broken staircase. As we rose, however, we began to catch the breeze, unfelt in the valley, and had grand views behind us of the glacier, and the path we had descended from the Furca.

The sudden changes from declivity to hill are rather trying at first to untrained legs. Fresh sets of muscles are brought into play, and the first two or three days make the shins and thighs ache, as if they had been beaten. They soon harden, however, and adapt themselves to their unaccustomed exertion; so much so, that after a week's good walking you feel ready to face anything, and stride quickly down rough paths, and among blocks of stone, which shortly before would have required a slow, and perhaps shaky descent. When we got to the top of the Pass, we came upon a lake called the Dead Sea, from the corpses of slain Austrians having been thrown into it. It is a sombre leaden looking piece of water, deep and cold. Leaving this on our left, we begin to descend a series of stone zigzags, at the bottom of which, some three quarters of an hour off, was the inn at which we proposed to lie for that night. This, too, stood at the edge of a small lake, which, shut in by high rocks, looked deeper than it was broad.

ROCKS POLISHED BY OLD GLACIERS.

SWISS GIRLS OF CANTON BERNE.

The Grimsel inn is a great centre of passes in these parts. The most famous of these is the Strahleck, leading to Grindelwald. It is described by Murray as "very difficult indeed, suited only to skilful mountaineers." It may be accomplished in fourteen or fifteen hours, and is one of the most striking in the Alps. The route (there is no path) leads under the Shreckhorn, and descends to Grindelwald by the lower glacier. There is another pass to Gadmenthal, which has not yet received a name, being seldom traversed, though very beautiful. There is also the Oberaarjoch to Viesch, and another to Meyningen over the Lauteraar and Gauli glaciers.

Hence we are now in one of the most central spots in the Oberland. Besides these more formidable and established excursions, there are a number of magnificent walks in the neighbourhood of the inn, which would make it a very pleasant place for a sojourn of a few days. Being the terminus to so many Passes, it often gets quite full as the day draws on. When we arrived, we found several people there already, but many more kept coming in till the place was more than filled. We never met with so crowded a hostelry. The inn, which is deserted in the winter, is nothing but a large unpainted stone box, with a number of smaller deal ones inside it. Every room was occupied, and there was quite a little mob of guides and porters about the door. You may be sure the ogre led a powerful chorus of howlers in the evening.

We thought, however, that we had lost him, for some time. A rough bench outside the inn commanded a view of the zigzags leading down from the top of the Pass. We sat there, drinking some delicious milk, and could see every successive party winding slowly down. As each reached the little level spot on which the inn stood, we looked for the ogre among them. But no. Porters and guides came in, casting their loads gladly

down, and wiping their tanned brows; but the ogre was not in sight. We searched with glasses among the distant figures descending the path, for the awkward gait and clumsy figure of our guide, but it was not till the last party had drawn near, that we saw him lumbering along half a mile beyond the lag end of the hindmost batch. He came in for a good deal of "chaff" among the other guides, about being an hour and a half behind his party; but he soon howled it all off.

The view at the Grimsel is very striking, not only from the wildness of the rocks around it, but from the many colours of the lichens which clothe them. Yet the air felt by no means moist. The unpainted deal roof of the inn and its outbuildings showed no sign of decay.

We mustered a large party in the evening, of many nations, and, considering the loneliness of the spot, fared exceedingly well. It need be a good larder to feed half a hundred hungry tourists, to say nothing of the large party of guides and porters, who played at least as good knives and forks as their masters. We had plenty of mutton, stewed prunes, and, which rather surprised us, for there were no hazels near—nuts. I never saw so many nutcrackers together: each person was supplied. A man walked down the room with a large basketful, dealing them out right and left. There must have been fifty. Everybody had a knife, a fork, and a large pair of iron nutcrackers.

THE COFFER IN THE GREAT PYRAMID.

In what is called the King's Chamber of the Great Pyramid of Egypt, there is a coffer of porphyry, commonly supposed to have been the sarcophagus of the royal builder. This coffer, however, does not resemble an ordinary sarcophagus, and its form presents numerous definite and peculiar proportions, so that it is impossible to conceive the structure to be accidental. Having found the proportions geometrically accurate, the author of this paper believes that this coffer is a treasure-chest of science, and that its proportions deserve careful observation and study.*

From whatever source those who have formed Tables of ancient measures derived their data, it is some evidence of their correctness that we find a close approximation to such measures as can be deduced from the coffer, the variation of which, for at least four thousand years, must be inappreciable. We know that measures, whether of metal, wood, or other substance, are liable to change by heat and cold, dryness or moisture, and by want of care in making repetitions by copying. Hence the importance of referring to original standards, when exactness is required; and in the proportions of this coffer the author thinks will be found the most ancient and accurate standard of measurement in existence.

It has been long considered by the author of this paper, that the "circles of the human eye" are evidences of true geometrical form in nature. The instructed human eye is an accurate judge of forms and proportions; but no idea was entertained that equally true geometrical proportions could be deduced from that feature as a unit of measure, or principle of proportion, and so applied in art.

It was not, however, until after long consideration that the largest unit that divides every part of that coffer in equal parts had been ascertained; and still larger units of measure had, step by step, been composed with it, not only for definite parts of the coffer, but for every part of the Great Pyramid. The peculiar numbers that have turned up in this examination are precisely the same that are made use of as divisors of both weights and measures at the present time.

After all this, the thought occurred of trying to identify this peculiar coffer unit in some way with nature. "The human eye" suggested itself, and, remembering what Hogarth had said of that feature, he was referred to.

Hogarth, in his "Analysis of Beauty," published in 1753, says "that though every feature grows larger and larger till the whole person has done growing, the sight of the eye still keeps its original size: I mean the pupil with its iris, or ring; for the diameter of this circle continues still the same, and so becomes a fixed measure, by which we, as it were, insensibly compare the clearly perceived growings of the other parts of the face, and thereby determine a young person's age."

Let any one consider the circles of the eye of a child, increasing in the same proportion as the rest of the body—What sort of an eye would a full-grown person then have?

Hogarth's work being at hand, it was at once perceived, by comparing this coffer unit of measure with the size of an eye he has recorded, that it is the side of a square that can be inscribed in the outer circle or iris of the human eye.

This, surely, is a more definite unit of measure than "digits" or "barley-corns" ever can be. Then, the diagonal of the square inscribed is the diameter of the largest circle of the human eye, which becomes a unit of other measures; and the side of the coffer unit square becomes the diagonal of another square, which circumscribes the pupil. Thus it is shown that true geometrical proportions may be deduced from the human eye, and that these proportions may be reduced, step by step, to the smallest contraction of the pupil.

All the rules of arithmetic, in reference to proportions of right lines, plane surfaces, and solids, can be determined by the practical geometry of the coffer, and other parts of the Great Pyramid.

Whatever may be thought of this natural unit of measure, the attention of the reader is directed to the definite proportions now to be presented.

The Largest Unit of Measure for all parts of the Coffer.

Fig I.

This is an isometrical projection (full size) of a cube of the largest unit of measure, whose side is an inscribed square of the largest circle of the human eye; and that cube divides every part of the coffer equally. Two million three hundred and seventy thousand eight hundred and sixteen (2,370,816)

* The name of the oldest recorded measure is "cubit." So sacred a measure as this "cubit"—named by God himself to Noah, when, by that measure, he gave instructions for building the ark—surely would deserve, as well as its name, the most accurate and durable record. Then how could such a measure be correctly and safely preserved for the greatest length of time—say, to the present day?

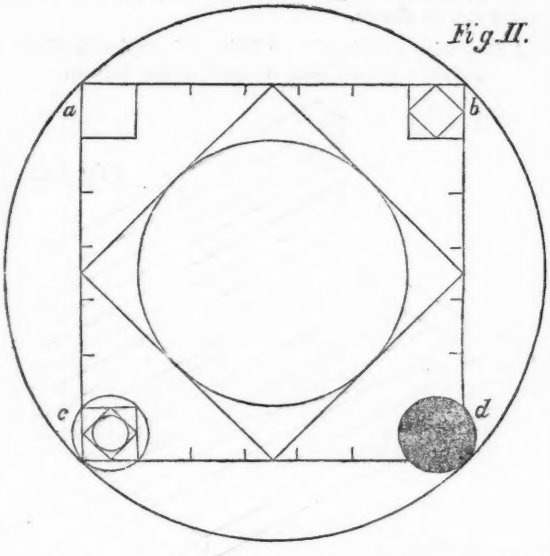
A cubit, whatever that measure was, was thus antediluvian. Noah, whose father lived in the time of Adam, and Noah, who lived himself so long before and after the Deluge, had ample time to become instructed, and to instruct his posterity, as to what occurred before the flood in reference to either weights or measures and their use.

We know that the Lord instructed Moses to use a cubit as a measure. That measure would be sacred also. Was that a new revelation of length? or in what way could the cubit named to Noah have been handed down to Moses? It can be easily conceived how the cubit used by the architects of the Tabernacle may have been handed down to the time of Solomon. If that cubit can be deduced from any fragment still remaining at Jerusalem, and compared with what can be deduced from the Coffer, etc. of the Great Pyramid, it would show with what measure the cubit of Moses corresponded. Ezekiel saw in a vision a "measuring reed" of "six cubits of a cubit and a handbreadth." This indicates that there was more than one "cubit." It has been thought desirable to say thus much now, that due attention may be given to the exact proportions and the great durability of the Coffer, in which, it is conjectured, a key may be found to that most ancient measure, the cubit, as well as to other measures.

of these cubes will exactly fill the void of the Pyramid coffer; and the same number would as accurately build the sides, the ends, and the bottom of their respective lengths, breadths, and thickness. The sum of these unit cubes, forming the exterior and filling the interior, is 4,741,632; and the sum of the figures, in each of these large numbers of unit cubes, is equal to 27. The length of the greatest number of the largest units in one row, would reach 23·092 miles of the foot used by Greaves.

The Unit explained by the Human Eye.

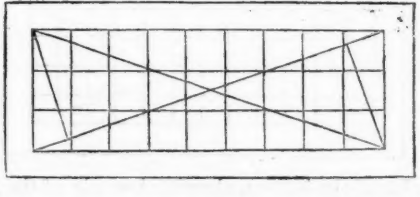
Fig. II.



The largest circles and squares of this figure exhibit the human eye and its geometrical proportions magnified forty-nine times. The small square *a*, simply represents the face of the unit cube, full size; that at *b* has the inscribed square, within the unit square, whose diagonal is equal to the side of the unit square. At *c* are shown the geometrical proportions of the circumscribed circle to the unit square, and the inscribed circle to the smaller square. At *d* the human eye is represented of the natural size.

Plan of the Coffer.

Fig. III.

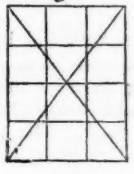


This plan shows the interior divided horizontally, transversely into *three*, and longitudinally into *nine* equal parts. Also on a diagonal are shown right-angled triangles, whose sides are in the proportion of 3, 4, and 5, deduced from the interior thus divided. The smallest of the acute angles is formed by the diagonals. Each of the squares into which the plan of the interior is thus divided, is twenty-eight units on the side, or *four* times the side of the large square of Fig. II, which is seven units.

Twenty-eight units, according to Greaves's full-length of the interior of the coffer, is ·72 of an English foot. Gabb, in his "Finis Pyramidis," gives 8·7552 inches (=·7279 parts of an English foot), as "the foot of the first settlers at *Athens* and at other places, and long before them in use amongst the *Egyptians*." Then the diagonal of that square, whose side is ·72 is 1·018; and the Greek foot of the present Parthenon, as deduced from Mr. Penrose's most careful measurements of its remains, is 1·0144 of the English foot. *Four* times the diagonal of the largest square of Fig. II is 1·018. The difference is so very trifling, as to render it probable that both the foot of the first settlers at Athens, and the one deduced from Mr. Penrose's measurements, have been derived from those proportions of the coffer. If the coffer were measured by the same rule used by Mr. Penrose, and as carefully, the difference might prove to be less, or even the measures identical.

Elevation of End of Coffer, inside.

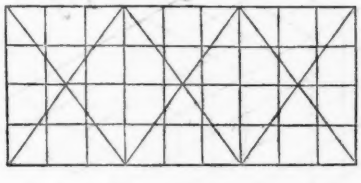
Fig. IV.



This is the elevation of each end of the interior of the coffer—the breadth being divided by 3 and the depth by 4; which gives 12 squares of 28 units on each side—each of the diagonals of the ends being equal to 5 times ·72, or 3·6 feet English. Each end thus admits of being divided by *two* large right-angled triangles, and eight smaller ones, whose sides are in the proportion of 3, 4, and 5.

Elevation of Side, inside.

Fig. V.



This is the elevation of each side inside the coffer, and shows the proportion of 4 squares in height and 9 squares in length, of 28 units each, on the sides—*four* to *nine* being the same proportion as the platform of the Parthenon at the upper step. Each side, it will be observed, contains the proportion of the ends, three times repeated. The platform of the Parthenon being divided by the diagonals of 3 to 4, in this way, the first points of the crossing of the diagonals one-sixth from each end give not only the centres of the door-way, but also the middle of the thickness of each wall, at the ends of the Parthenon. This has not been noticed before. It therefore may be taken as another evidence, that the Greeks derived their knowledge of applying the geometrical proportions of 3, 4, and 5 to architecture, as a key to other units of measure, from the Egyptians.

If the proportion of a parallelogram be as 4 to 8 (the proportion of the floor of the King's Chamber in the Great Pyramid), the diagonals as they cross there, give the *largest* of the acute angles of a right-angled triangle, whose sides are in the proportion of 3, 4, and 5.

The same means gives the angle of the descending and ascending passages to the King's Chamber in the Great Pyramid—the side of the parallelogram, 3 to 6 or 4 to 8, being then horizontal and the ends vertical.

Thus, each side of the inside of the coffer admits of being divided by 6 large right-angled triangles, and 24 smaller ones, whose sides are in the proportion of 3, 4, and 5.

Projection of the Interior of the Coffer, filled with the Contents of four Cubes.

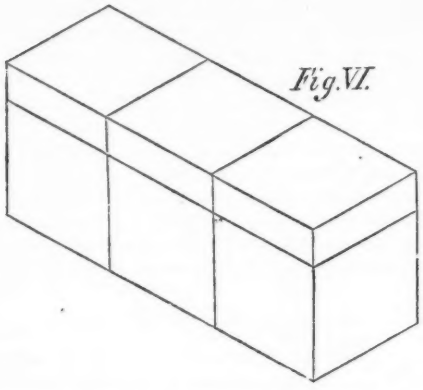


Fig. VI.

This represents the interior of the coffer filled by 3 *perfect* cubes of 84 units, each side of each face, and 3 pieces of $\frac{1}{3}$ of such cube, each being 28 units thick; the diagonal of each face of this cube being 3·054, measured by the foot which Greaves used. The diagonal is thus a little more than one yard English.

Projection of the Interior of the Coffer, filled with Cubes of 28 units on the side of each Face.

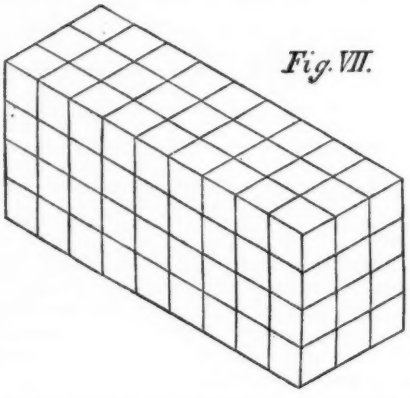


Fig. VII.

A projection of the interior of the coffer, filled with 108 cubes—the sides and diagonals of each face being respectively ·72 and 1·018 of the foot of Greaves.

A Projection of the Interior of the Coffer, filled by Prisms.

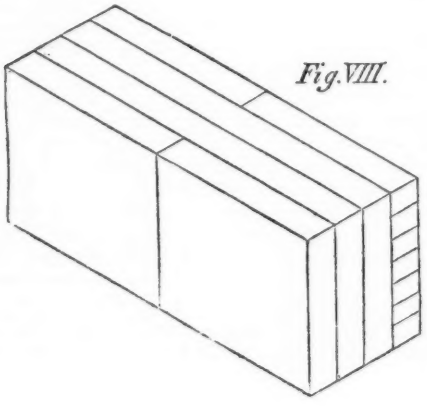


Fig. VIII.

A projection of the interior of the coffer, showing it filled, and divided first into four prisms of equal parts, longitudinally and vertically. Then each of the two pieces in the middle, form a side of the coffer above the bottom: and each $\frac{1}{2}$ of $\frac{1}{4}$ as shown in the front, shows an end of the coffer, full breadth and height above the bottom. The other $\frac{1}{4}$ at the back, is equal to the bottom, under the void sides and ends. This is more particularly described by the next figure. With twelve pieces of wood, or other materials, formed as those in this figure, models both of the interior and exterior of the coffer can be shown.

A Projection showing how a Prism of one fourth of the Interior of the Coffer, is equal to the Bottom.

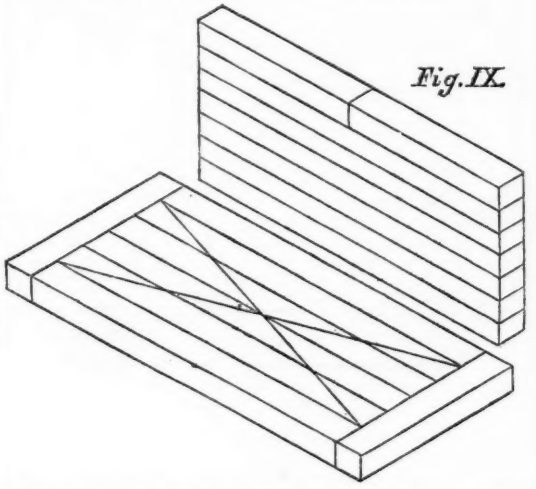
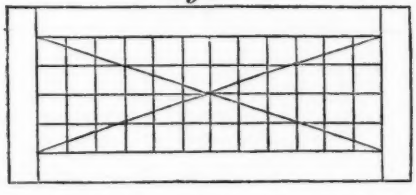


Fig. IX.

The upper part of this figure is a projection of a prism of $\frac{1}{4}$ of the interior of the coffer, showing how it is first divided into *seven* other equal prisms, and then the top piece is equally divided into two prisms. Next, as they are represented below, by an isometrical projection, it is shown how these eight pieces are equal to the bottom, under the sides, ends, and void of the interior.

Plan of the Bottom of the Coffer, showing the Interior divided into 48 equal Squares.

Fig. X.



A plan of the bottom, showing how *six* of the prisms of $\frac{1}{7}$ of $\frac{1}{4}$ of the interior void, and *two* prisms of $\frac{1}{14}$ of $\frac{1}{4}$, form the proportion of the bottom—the portion of the bottom under the interior, being divided into squares of 21 units on each side.

Some of these lines, it is conjectured, may, if looked for, be yet found marked on the underside of the bottom of the coffer: as the mason's lines used for the construction of the coffer with such accuracy. The *five lines* over the entrance passage to the King's Chamber, forming a sort of scale, may have been intended to refer to *five* of the lines under the coffer, although not at the same distance, yet at equal distances apart—a similar scale.

An Isometrical Projection, showing the Exterior and part of the Interior of the Coffer.

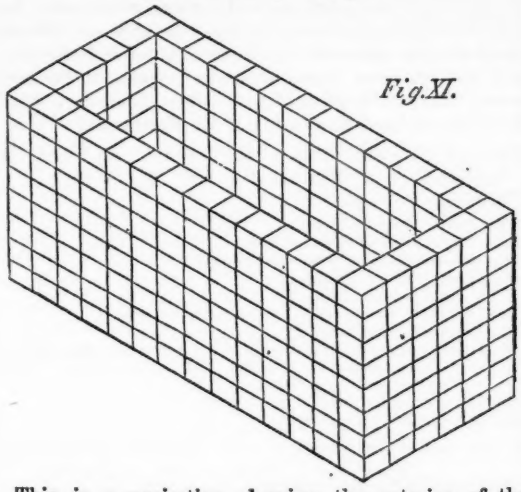


Fig. XI.

This is a projection showing the exterior of the coffer and part of its inside, as if formed by blocks of $21 \times 21 \times 16$ units each, in all, 336 blocks, which would also exactly fill the interior. Together, they would form a row of 672 blocks, giving a length of 362·88 feet. The top of the sides and ends is formed by 36 of these blocks, and each row under has the same number.

An Isometrical Projection of a Cube, equal to the Cube of the exterior Measures of the Coffer.

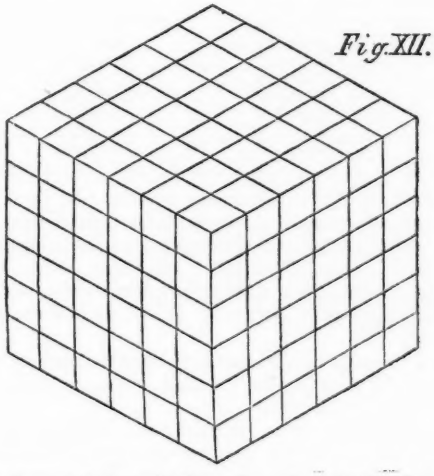


Fig. XII.

An isometrical projection of a cube of 216 cubes of 28 units, the side of each face, which is exactly equal to the cubic contents of the exterior measure of Fig. XI, and double the cubic contents of each, Figs. VI, VII, and VIII. This cube can also be formed of eight of the cubes shown by Fig. VI.

Neither the exterior of the sides, ends, or bottom of the coffer, or the face of any cube, can be definitely divided by right-angled triangles whose sides are in the proportion of 3, 4, and 5. The diagonal of the face of this cube =6·115 feet English—two Scotch ells =6·2 feet English.

Perhaps more than one hundred authors could be named who have said something respecting the coffer in the King's Chamber of the Great Pyramid, but not one has recorded, in the works I have seen, all the parts accurately; or determined both its interior and exterior proportions; or how to compose the various units of measure that apply either to the whole or different parts; or shown, except by conjecture, how the exterior length has been taken as a unit of measure; and none has referred to the largest circle of the human eye, its inscribed square, and its diameter, as units of measure.

Greaves, who was in Egypt in 1638, measured, and has recorded his measurements of some parts of the coffer, as accurately as any person who has attempted to do so. From Greaves's interior measures, Mr. Taylor, (the author of "The Great Pyramid—Why was it built? and who built it?") appears to have been the first to determine the correct proportions of the interior of the coffer; which he states to be 30 digits in breadth, 40 in depth, and 90 in length—ten digits being equal to 28 of the largest units that will measure every part.

Greaves also appears to have measured with equal accuracy the *exterior height* of the coffer, as it stood on the floor of the King's Chamber, and then he simply states that the *exterior breadth* is "about as much." That breadth, however, is about $\frac{4}{5}$ of an inch less than the correct height, or two units. Then the exterior length, if Greaves measured it correctly, has not been accurately recorded, being too short by a little more than $3\frac{1}{4}$ inches English.

It is supposed that there was some difficulty in getting the exact breadth of the coffer with the means Greaves, and then Vyse and Perring, 200 years afterwards, had at hand. Greaves states that he measured the breadth at the *north end*. The measure which he gives is larger than that by Vyse, although Vyse's interior length is greater that than of Greaves's. Vyse's exterior height clearly appears an error as recorded. Greaves's exterior length at first led the present investigator into error, as it did Gabb fifty-eight years ago, who supposed it to be a unit of measure, the $\frac{1}{1000}$ part of the side of the base of the Great Pyramid, which he states *agrees* with what the French afterwards ascertained; but that is less by about 34 feet than as measured by Vyse and Perring, after the "casing stones" on the pavement of the north side had been discovered.

It is not, however, now intended to prove the exact measure of the side of the Pyramid at its base, upon the platform of the surrounding pavement; for before that can be done, so as to compare it with the coffer and with our present English measure, and the ancient Greek measure of the foot of the Parthenon, as deduced from Mr. Penrose's most careful measurements, measurements must be taken of the coffer and other parts of the Pyramid, with the same rules, as accurately as by Mr. Penrose at the Parthenon.

Mr. Penrose refers to the measures of the Parthenon taken by Stuart, as not of sufficient accuracy to determine the Greek foot, the $\frac{1}{1000}$ part of the length of the end upper step.

It would have been as well if General Vyse and Mr. Perring, if they were acquainted with the measurements taken by others, had pointed out any inaccuracies, and proved their own, if different, by repeated and check measurements. But as it is, it appears that none of the measurers of the various parts of the Great Pyramid have been fully aware of the great accuracy required in the measures of every part, to determine exact proportions, and different units of measure, from a given one, either smaller or larger.

The discovery by the "key" (the proportions of the sides of a right-angled triangle 3, 4, and 5)* of the units of

* The author of this paper learned that the proportions 3, 4, and 5 would form a *right-angled triangle*, on the 4th of March, 1805, while taking

measure of the Parthenon, in 1855, induced the trial of the same in December, 1859, on seeing Mr. Taylor's work, first with reference to the coffer, when it was found to fit, and afterwards in the other places, as stated in the explanation of Fig. v. This was before I had observed, or Mr. Taylor had pointed out, his record of the proportion of the interior of the coffer being 30, 40, and 90 digits. But by the digit, as a unit, the exterior proportion of the coffer cannot be determined.

The exact agreement of the cubic quantity of the void, or hollow inside, with that of the cube quantity of the porphyry forming the sides, ends, and bottom, must be taken as evidence of the proportional accuracy of the whole. This could not be an accidental result.

Next, it may be repeated, as twice the breadth of the interior cubed, is exactly equal to twice the contents of the interior hollow, and twice the cube of the solid porphyry of the sides, ends, and bottom, or equal to the sum of both, this must be taken as an intended result of the design. Vast numbers of simple, practical geometrical results can be added to those now given as examples of what may be determined from the coffer, which so many have seen, without perceiving its numerous contained proportions. As the entire cube quantity of the interior is thus appropriated to the sides, ends, and bottom, there is not anything left for a cover. Then, may not this be taken as evidence that it never had a cover?

Instead of breaking off specimens from the coffer, and pushing it about and allowing the splendid granite floor to be broken up, immediately under where it stood, and which position had been determined with geometrical accuracy, to look after golden treasures—if the coffer had simply been turned on to one of its sides, to see the underside of the bottom, it is thought that the geometrical proportions of its construction with such accuracy, might have been found recorded. The coffer ought to be replaced in the position in which it was when Greaves saw it.

Let any practical mason consider, if he had a block of porphyry to cut into such a form, what part would he begin with? and then, how proceed to accomplish the whole, preserving the exterior sides and angles from all accident, until the interior was accurately cut away?

Some of the writers on the Pyramid have stated that the coffer must have been placed in the King's Chamber before the works were finished; for they say, it would have been impossible to have got it in by the descending and ascending passages, or for it to be got out in that way. This, however, is a mistake; for if the granite blocks which now form a barrier in the direct line of the passages were removed, it is evident, both from Greaves's and from Vyse's and Perring's measures, that there is ample room in the transverse section of the passages for the coffer, when finished externally, to have passed, and indeed it could yet be passed through.

Greaves's measure of the interior length of the coffer (6·488 feet, by the rule he used) is more to be depended on than any other, to obtain the nearest approximation to a unit of measure. The rule he used is said by a succeeding writer to have been some parts of a thousand of one foot too short; therefore, in these calculations, only 6·48 feet is taken for the length; the ·008, or last 8 of the decimals has been left out, which, however, can make no sensible difference to the naked eye, of the size of the largest unit of measure that divides every part with such accuracy.

his first practical lesson with an eminent land surveyor (Mr. John Machell), and which, if he had never known, he could not have discovered either the laws of proportion of the Parthenon, the Mausoleum of Mausolus, or any of those of the Great Pyramid.

Greaves states that he cut a record of his measure in the granite on one side of the King's Chamber; but that has not yet been noticed by any writer who has seen it and copied it accurately. It appears that the case* for that measure is at Oxford, but the measure itself has not been found there; so it cannot be compared with the English foot of the present day, which Mr. Penrose used in measuring the Parthenon.

Table of the Proportions of the Coffer, determined by the largest Unit of Measure that will divide every Part without a Fraction.

1st. 16=thickness of bottom.
2nd. 21=thickness of sides and ends.
3rd. 28=side of face of cube, of which 108 fill it.
4th. 84=the interior breadth.
5th. 112=the interior depth.
6th. 126=the exterior breadth, half the interior length.
7th. 128=the exterior height.
8th. 140=the diagonals of the ends inside, and which represent the proportion of 5, in reference to 3 as the breadth, and 4 as the depth.
9th. 252=the interior length.
10th. 294=the exterior length.

Proportion of the Measures of the Surfaces of the Coffer.

INSIDE.

Each end is as 84 to 112, or as 3 to 4.
Each side is as 112 to 252, or as 4 to 9.
The bottom is as 84 to 252, or as 3 to 9.
The bottom is also in the proportion of 4 to 12, or of 1 to 3.

OUTSIDE.

The bottom and top is as 126 to 294, or equal to 84 squares 21 by 21 units.
The horizontal proportions of the exterior is also expressed by 3 to 7, or 21 squares 42 by 42 units each.
The sides are each 128 by 294, or equal to 112 parallelograms 16 by 21.
The ends are each 124 by 128, or equal to 48 parallelograms 16 by 21.

Peculiarity of the Sum of some of the Cubic Numbers of the Coffer.

1.	4,741,632=27 ...	108= 9
2.	2,370,816=27 ...	216= 9
3.	1,185,408=27 ...	432= 9
4.	592,704=27 ...	864=18
5.	296,352=27 ...	1,728=18
6.	148,171=27 ...	3,456=18
7.	74,088=27 ...	6,912=18
8.	37,044=18 ...	13,824=18
9.	18,522=18 ...	27,648=27

It will be observed that the numbers on the left are continually half of the previous number, yet the sum of the figures forming them is =27 for each of the seven rows, while the sum of the figures of the eighth and ninth row is each only =18.

Then the numbers on the left hand are continually doubled, the sum of each row of the first three being each =9.

Then the sum of the next four rows are each =18.

While the sum of the last row, which is double the previous one, is =27.

The peculiarity is, that while the uniformity of the proportions of the numbers continues, their sum has stages of uniformity, but changes between stages in every case by 9 at a time. Many more illustrations could be given of such changes of sums by 9.

All these harmonious results of the proportions are to be found in the coffer in the Great Pyramid in Egypt. Amongst the numerous readers of "The Leisure Hour," some may be found, in these days of travelling, who may visit the antiquities there, and measure with accuracy judge for themselves, and make further discoveries.

JOSEPH JOPLING, *Architect.*

6, *Vassall Terrace, Kensington.*

* Since the above was written, most interesting descriptions of this case have been received, but yet incomplete; and, by suggestion, inquiries have been made for the measure at the Royal Society, the British Museum, the Mint, the Exchequer, and of Sir David Brewster; and at last it has been ascertained that the standard from which Greaves got his measure in 1637, was destroyed at Guildhall by the great fire in London (1666).

MEN I HAVE KNOWN.

DEAN BUCKLAND.

Boc-LAND is ground for good Saxon growth, and my subject ought to have been native of the Bucken, or Beech-bearing county of Buckingham; but Axminster, in Devon, had the honour of William Buckland's birth.

Winchester School, which has turned out and is continually furnishing distinguished men, and Corpus Christi College, Oxford, were the fountains whence he drew his educational culture; but long before he went to this school he had manifested the bent of his mind by his precocious love of natural history, and boyish devotedness to its observation or study. This feature in his character, if it did not advance him to honours then the most sought for in the University, led the way to the creation of a new set of such objects for ambition, and considerably altered the condition of a curriculum previously founded on the learning of the past, and almost ignoring the requirements of the present. Natural Science rose into repute, Geology started up like a young giant, and the distinctions hitherto confined to classics and mathematics, came to be also acknowledged as the rewards of scientific pursuits.

Buckland, who had meanwhile been ordained, was nominated Professor of Mineralogy in 1813, and in 1816 was appointed by the chancellor to the chair of Geology, founded at that date. To him was intrusted the organization of the Museum in the Clarendon Buildings, which has since become so rich in fossil remains, and other scientific treasures. His fame extended. Two years later he was elected a member of the Royal Society, and in two years more appeared before the public with his first work, the "Vindiciæ Geologicæ," in which he contended for the harmony that prevailed between Revelation and Nature. Without mentioning his various geological works, all of which were most popular, it is sufficient to refer to his "Bridgewater Treatise," his selection to write which was a proof of the high estimation in which he stood as a man of science and an author. Finally, he was rewarded with the Deanery of Westminster. Such is the brief outline of a life unusually even and prosperous.

Dr. Buckland's public character may be defined in one word—he was a geologist. His private popularity may likewise be explained by describing him as the most genial of men, and a delightful companion. My recollections of him are all connected with these two phases of his character.

One of the pet words which have recently come to supersede its synonyme "discuss," (and is never thought of in its strict original meaning, "to expose to fresh air,") viz. "to ventilate," could never be so justly applied as with reference to the British Association and its doings. Professor Buckland was one of its earliest and most zealous supporters; it was the very theatre most suitable for him and his talents—for the propagandism of many searches after human knowledge—among which young Geology took a foremost rank. Able and clever men in every branch of science, and every pursuit of information, are deeply indebted to this Association for the opportunities it afforded them for ventilating their talents and the views they entertained. It made many gifted individuals generally known, who would otherwise have lived and died in obscurity; and it led to the advancement of not a few on the high-roads of fortune, whose paths, but for it, would have been most probably difficult, obscure, and unproductive. After Vernon Harcourt, its able advocate, and Brewster, its eminent Scottish founder, three English University celebrities took the lead among its most active supporters. These were Buckland, Sedgwick, and Whewell. The British Association answered the ends of all these three widely different persons; Buckland, ever playful and pleasing—Sedgwick, all heart, and a straightforward devotee to the power of truth—and Whewell, impetuously asserting his own superiority, so as to beget neither the familiar regard of the one nor the genuine esteem of the other, though always looked up to as a man of extraordinary talents. Both were promoted before him; both lamented and represented that his vast ability was long overlooked; but there came a sudden shifting in the lottery of patronage: the first prize that turned up was a high one, and the lucky Master of Trinity essayed to kick down the ladder by which he had risen. The Association, however, survived the attempt, and continues to flourish. Whewell proposed that, instead of being annual, the meetings should take place only triennially; but the scheme for this gradual extinction was at once warmly repudiated.

To return to Geology and Buckland. The new science had languished in England since the days of Whiston, till William Smith produced his discovery relating to organized fossil remains being identified with the various strata in which they were found. Upon this the science began to assume a new rank. Buckland was the most sanguine and enthusiastic votary of the new science. His lectures at Oxford gave an immense impulse to scientific zeal. Of his special contributions to geological knowledge, it is not my purpose to speak, but only to recal some impressions of his personal character. In this retrospect, the first recollection is of his captivating conversation, whether on the trite and commonplace topics of the day, or on recondite and fruitful subjects of learning and science. It was indeed at the feast of reason and the flow of social and intellectual intercourse that Buckland shone.

> "A merrier man,
> Within the limit of becoming mirth,
> I never spent an hour's talk withal."

Nothing came amiss to him. From the creation of the world to the latest news on town—from the flora and fauna of ages long past to the last horticultural meeting at Chiswick, or exhibition at the Zoological Gardens—through all intermediate time he was equally at home. *Nihil tetigit quod non ornavit.* There were few subjects which he could not, more or less, illustrate. His information, if not profound, covered a vast space; and where he might be without the nugget or massive coin of gold, he was never, at any rate, deficient in ready small change of intrinsic value, to supply the currency desirable for the uses and improvement of intelligent society. In build, look, and manners, he was a thorough English gentleman, and was prized in every circle.

It was no drawback, that in listening to his lessons of wisdom, the infusion of gaiety seemed to make the philosophy in sport so unusually entertaining, that the hearer almost forgot that it was nevertheless essentially philosophical, and eminently practical. On geology, of course, he was oracular; but, in alliance with its zealous pursuit, he had made himself master of cognate branches of scientific inquiry, still more immediately ministering to the comfort and welfare of mankind. Take him upon agriculture, for example; and after a luminous disquisition upon the variety of soils, manures, products, etc., which any farmer might have profited much by hearing, he would enliven the theme by bringing it down to the capacities of the ladies, or of inquisitive non-scientific auditors like myself. I remember the

astonishment of a country squire, to whom he demonstrated that the barrenness of the field within the park was due to the hosts of pheasants in his well-kept preserves, that robbed the earth of its needful chalk, in order to consolidate their egg-shells. This was not a jest, but a fact; the ground in question was impoverished by the abstraction of a constituent necessary for its greater fertility.

Anecdote revives anecdote. It was not far distant from the same locality (on which I have painted this trait), that Buckland made one of his splendid discoveries, viz., that the moraines upon Dartmoor were confirmatory of the glacial theory: the triumphant proclamation of which "truth" was so derided by the people around, who ridiculed the learned geologist for making such a noise about his seeing *moor-hens* on the moor!

When the unfortunate Mr. Strickland resuscitated the extinct Dodo, and Dr. Mantell, from skeleton bones, reproduced the Diornis of New Zealand, the discoveries were made features at the mingled scene of science and pleasantry of the British Association. At Oxford a member picked up an unfledged bird, killed by a fall from the parapet of the Cathedral, and, having it finely packed up by a chemist, the box, properly inscribed as a specimen recently obtained, was handed up to the Professor, in the midst of a full declamation on the platform of an evening assemblage. He turned to happy use the sportive incident, and made the whole auditory join in the laughter which was begun by those who were cognizant of the cause of the merriment.* At Bristol, in a way not so congenial to the minds of friends, though not at the time clearly impressed as the forewarning of coming ill, was the exhibition on the scientific stage of the presumed action of the gigantic fowl. The Romish miracle of Saint Medard is represented on our church walls as leaving his footmarks upon the stones; but the enthusiastic Buckland far outdid the saint in the strides he took to show the spectators what creatures they must have been that left such far apart traces upon the sands (now solid rocks) of the elder globe. At this meeting, symptoms of injured health were manifest, insomuch that his most esteemed and dearest associate lamented the appearance, and with manly tears anticipated that possible future which was so grievously realized.

What shall I say of the opinion, so redolent of many amusing days, which he maintained, with unflinching philosophy and ingenious arguments, against a host of archæologists, that the crumbling of Roman remains in Britain was principally owing to the absorption of the mortar by snails, for the construction of their own habitations? At Richborough, he upheld this doctrine with surprising energy and eloquence, till half the attendant crowd believed the ruins would have stood higher at this day if the Romans had eaten all their snails: and the doctor went on to predict that Plymouth breakwater would be destroyed by the same means, unless live consumers were more sharply looked after! And *àpropos* of this occasion, it was curiously remarked, that the Roman edible snail, poor rival of the famous Lymne, and Richborough, or Rutupian oyster, was now found in very few places in England, and these chiefly in the neighbourhood of ancient Roman stations. As luxuries they are no longer cultivated, and only sought as restoratives (I am told, often with good effect) in consumptive cases; whilst the "natives" flourish in abundance, albeit the exportation to Rome has not continued to the era of Pio Nono, to whom the Protestant dean of Westminster would not have sent even a shell.

But to more solid reminiscences of the most agreeable and estimable Professor. As in agriculture, so in mining, was Dr. Buckland a high authority. From the long abandoned British, Phœnician, Roman, or Saxon works on the rocky waste of Druidical Dartmoor, to the most recent shaft sunk for tin or copper in Cornwall or Wales, he was intimately acquainted with the bearings of the subject, and his advice, founded on geological data, was of great importance. And it was the same in all the branches of natural history, especially in mineralogy, and the infinite varieties of organized creation, from the "first syllable of recorded time," to the hour at which he taught us by his oracles. It was this prime faculty which made him so delightful as a companion, and acted as a charm on all ranks, from the elevated statesman like Sir Robert Peel (who was his steady friend), to the mere youthful tyro who took hammer in hand to prosecute his peculiar and favourite study. There was always some novel experiment, some strange demonstration, some curious discovery, some remarkable fact to be talked about; and he did talk about them with such a fluency of good, kindly humour, seasoned with such an abundance of valuable instruction, that the hearer must have been as stupid as the Dodo, who could go away without feeling that much profit might be derived amid the enjoyment of well-regulated pleasantry. I have known no man superior to Dr. Buckland in the power to produce this effect. Even when he condescended to play the jester a little in the circus, Brutus was in those days only assuming the disguise. To my sense, the character of Hamlet would serve as a key to his entire career and nature; only his was mirthful and happy, whereas that of the Danish prince was sad and tragical.

Alas, that the mortal close of this genial life, cherished by the wise, and courted by the wealthy; admired and applauded in public, and esteemed and welcomed in private, should have been enveloped in the dark clouds, which, for six long and dreary years, steeped the hearts of pitying friends in unavailing grief! Yet so it was; the inscrutable decree of an overruling Providence laid the solemn lesson legibly before our bedimmed eyes, and taught us, in the nothingness of human aspirations, that all is vanity and vexation of spirit.

I rejoice to observe from the press, that the eldest son of Dr. Buckland, (whom I have met) Mr. Frank Buckland, Assistant-Surgeon to the 2nd Life Guards, is distinguishing himself in varied walks of science and popular demonstration, and in a manner that bids fair to yield him present reward and lasting fame. His "Curiosities of Natural History" are charming books. His contributions to "The Leisure Hour" I always read with pleasure, and I wish they were more frequent.

I cannot conclude this sketch better than with the following most interesting extract from a letter which I have seen, in which Mr. Frank Buckland says, "The 'Leisure Hour' was the only publication my dear father would read during his illness, and the volumes were always on his table. He would look at nothing else, save the Bible."

* The Dodo's name recalls to memory an amusing circumstance which occurred at the Oxford Meeting, where the fledgling Dodo was exhibited. In the forenoon, and in the Natural History section, a curious *Tortoise*, brought forward by Prince Napoleon, happened to be the subject of discussion; to which I paid due attention, whilst seated at the table close to one of our most eminent Bishops. A few hours later I found myself seated equally near his lordship, at the anniversary festival of Bethlem Hospital, with the *Turtle* due to the occasion under quite another process of discussion. He recognised the morning conjunction, and we had a pleasant laugh at the oddity of the adventure which had brought us again together, thanks to a bounteous invitation and the express train, on the same benevolent errand.